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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/595,646   | 05/02/2006  | Andreas Bockholt     | WAS0777PUSA         | 4012             |
| 22045  | 7590        | 05/08/2009           | EXAMINER            |                  |
| BROOKS KUSHMAN P.C.<br>1000 TOWN CENTER<br>TWENTY-SECOND FLOOR<br>SOUTHFIELD, MI 48075 |             |                      | HAIN, TOBY          |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 4131                |                  |
|  |             |                      | MAIL DATE           | DELIVERY MODE    |
|  |             |                      | 05/08/2009          | PAPER            |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/595,646 | <b>Applicant(s)</b><br>BOCKHOLT ET AL. |  |
|                              | <b>Examiner</b><br>TOBY D. HAIN      | <b>Art Unit</b><br>4131                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/11/2006</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claims Status***

1. There are 16 claims pending, and all 16 claims are under consideration. Claims 8, 12, 15, and 16 are compound claims; claim 9 is a process claim; and claims 10, 11, 13, 14, and 17-23 are composition claims. This is the first action on the merits.

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 5/11/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

#### **Abstract**

2. Applicant is reminded of the proper content of an abstract of the disclosure. A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art, and, where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

3. Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts for compounds or compositions, the general nature of the compound or composition should be given as well as its use, *e.g.*, "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

Revision of the content of the abstract is required on a separate sheet.

4. The abstract of the disclosure is objected to because applicant is claiming processes, compound, and compositions without clear indicia of the substance of the disclosed subject. Applicant shall include molecular structures and process steps envisaging what applicant considers as the inventive concepts. Currently, the abstract is too generic and does not enlighten one skilled in the art, particularly of the current classification, as to the subject matter disclosed. Correction is required. See MPEP § 608.01(b).

#### **Content of Specification**

Art Unit: 4131

5. The content for a an application for a United States patent should contain the following if applicable:

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
  - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
  - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and

problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."

- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations

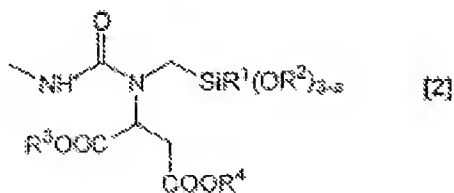
Art Unit: 4131

to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

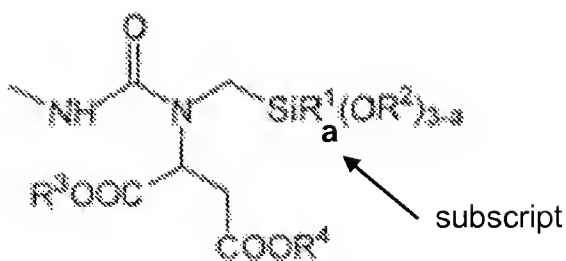
6. The disclosure is objected to because of the following issue:

formula 2 (specification, page 8) is disclosed as



but contextually the structure makes chemical sense if the structure is instead

Art Unit: 4131



Note that in the specification at page 6 applicant discloses a similar compound (formula 1) having the correct valency for silicon by adorning a subscript on R<sup>1</sup> of the structure in formula

1. Appropriate correction is required unless what appears in the submitted application is correct.

### *Claim Objections*

7. A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

### *Claim Rejections - 35 USC § 112*

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 9-14 and 16-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 12 recites the limitation "of claim 1" in its preamble. There is insufficient antecedent basis for this limitation in the claim since claim 1 was cancelled.

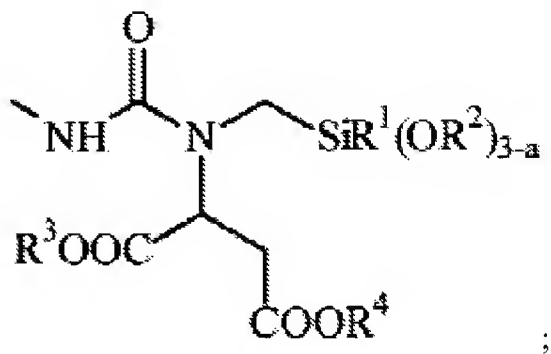


Art Unit: 4131

11. Claims 16 depends on claim 12, which recites the limitation "of claim 1" in its preamble.

There is insufficient antecedent basis for this limitation in the claim. Since claim 1 was cancelled, the examiner is unable to further examine claim 12 and its dependencies.

12. Claims 9 and 10 are independent claims and display the structure



however, the subscript on the group OR<sup>2</sup>, namely (3-a), with the recited values of a = 1 and a = 2 leads to invalid valences for the central silicon atom, violating the octet rule followed by members of Group IVA. Thus claims 9 and 10 and their dependencies are indefinite. Note that in the specification at page 6 applicant discloses a similar compound (formula 1) having the correct valency for silicon by adorning a subscript on R<sup>1</sup> of the structure in formula 1.

13. Claims 11, 13, 14, 17-23 depend on the structure from claim 10 and, therefore, are indefinite since the subscript on the group OR<sup>2</sup>, namely (3-a), with the recited values of a = 1 and a = 2 leads to invalid valences for the central silicon atom, violating the octet rule followed by members of Group IVA. Thus claims 11, 13, 14, 17-23 are indefinite. Note that in the specification at page 6 applicant discloses a similar compound (formula 1) having the correct valency for silicon by adorning a subscript on R<sup>1</sup> of the structure in formula 1.

***Claim Rejections - 35 USC § 103***

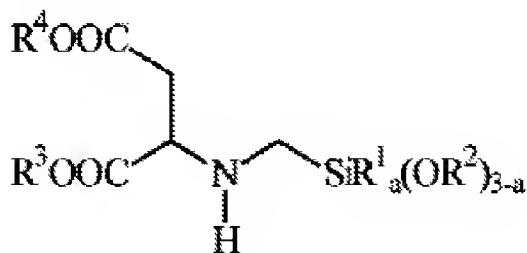
14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,111,010 (issued Aug. 29, 2000) to Yu *et al.*

17. Claim 8 is directed to alkoxysilane compounds of the general formula

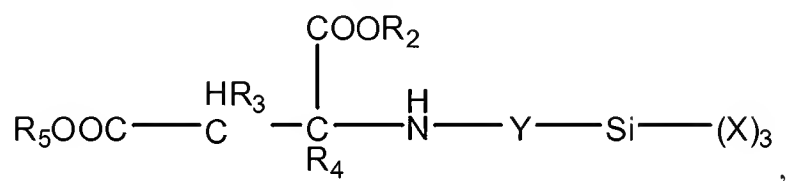


Art Unit: 4131

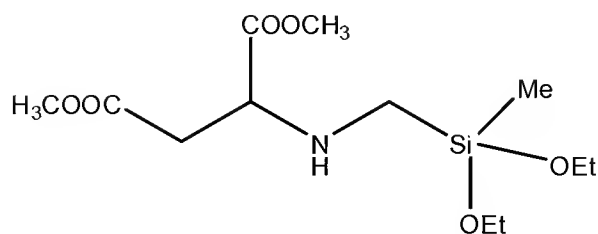
where

 $R^1$  is an optionally halogen-substituted hydrocarbon radical, $R^2$  is an alkyl radical having 1-6 carbon atoms or a  $\alpha$ -oxaalkyl-alkyl radical having in all 2-10 carbon atoms, $R^3$  is an optionally substituted hydrocarbon radical, $R^4$  is an optionally substituted hydrocarbon radical, and $a$  is 0, 1 or 2.Claim 15 adds the further limitation that the  $R^1$  groups are methyl, ethyl, or phenyl.

18. Yu teaches at col. 3, lines 15-20, alkoxyasilane compounds having the structure



and by applying the groups defined in Yu (namely,  $R_5 = R_2 = \text{Me}$ ,  $R_3 = R_4 = \text{H}$ ,  $\text{Y} = \text{CH}_2$ , and X represents identical or different organic groups provided at least one is an alkoxy group having 1 to 4 carbon atoms and here one  $\text{X} = \text{Me}$  while for the others  $\text{X} = \text{OEt}$ ) one obtains the following structure



dimethyl 2-((diethoxy(methyl)silyl)methylamino)succinate.

(See Yu at col. 2, lines 51-60, and col. 3, lines 15-32) This structure is equivalent to that claimed in claims 8 and 15 so Yu is not deficient in teaching the claimed subject matter. Furthermore, Yu includes sufficient information to lead one skilled in the art of organic chemistry or chemical

Art Unit: 4131

engineering to conclude that Yu envisages that which applicant claims in claims 8 and 15.

Claims 8 and 15 are directed to a genus of alkoxysilanes, and Yu teaches a limited number of species, e.g., at col. 3, line 26, Yu restricts both R<sub>2</sub> and R<sub>5</sub> (methyl, ethyl, and butyl groups), R<sub>3</sub> and R<sub>4</sub> (hydrogen atom), and Y (a linear alkylene containing 1 to 8 carbon atoms at col.2, lines 56-57). Thus, no difference between Yu's teachings and claims 8 and 15 exist.

One skilled in the arts of organic chemistry or chemical engineering at the time of applicant's invention would perform routine synthetic procedures to obtain alkoxysilanes in light of Yu's teachings and would arrive at the above structure. This is a well-defined, predictable outcome. Hence, claims 8 and 15 are obvious in view of Yu.

### ***Prior Art of Interest***

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following tables contain prior art that relates to applicant's pending claims and material that is disclosed that may or may not be currently claimed.

20. The following U.S. patents

| U.S. PATENT DOCUMENTS                            |                 |                    |                |
|--|-----------------|--------------------|----------------|
| Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name               | Classification |
| US-5,756,751                                     | 05-1998         | Schmalstieg et al. | 548/110        |
| US-6,440,573                                     | 08-2002         | Hansen et al.      | 428/447        |
| US-2004/0127622                                  | 07-2004         | Pfenninger et al.  | 524/425        |
| US-6,545,987                                     | 04-2003         | Schmalstieg et al. | 525/38         |
| US-5,932,652                                     | 08-1999         | Roesler et al.     | 524/839        |
| US-2006/0183846                                  | 08-2006         | Pfenninger et al.  | 524/586        |

are germane to the application.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TOBY D. HAIN whose telephone number is (571)270-1329. The examiner can normally be reached on Monday-Friday 7:30AM-5:00PM (except every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James O. Wilson can be reached on 571-272-0661. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/TOBY D HAIN/  
Examiner, Art Unit 4131**

**/James O. Wilson/  
Supervisory Patent Examiner, Art Unit 1624**